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# Damming A \$30,000,000.00 Stream In Florida With Lemons and Limes

By DAVID C. BARROW, of De Soto City, Fla.

Since Florida is not a state with mountain ranges, swift flowing streams and imposing water falls, the average person is surprised at a statement that there is or was a \$30,000,000 "Stream" in Florida. An explanation is therefore in order. Ten years ago Florida was consuming about \$1,800,000 worth of foreign grown lemons annually, practically all from Italy. Since \$1,800,000 is the annual interest at 6 percent on \$30,000,000, we may term it a "A \$30,000,000 Stream" of hard earned Florida money flowing out at the rate of 6 percent per annum. Another way of expressing it would be that the people of Florida were laboring under a bondage of \$30,000,000 and had to pay 6 per cent per annum on this huge sum to foreign lemon growers to supply us with something we should produce here at home. With Florida growing the finest, juiciest oranges and grapefruit in the world, for lemons, a kindred citrus fruit, she was dependent upon a source of supply located half way around the world from her.

Italy and California supply practically the entire world with lemons. The writer and others had tried out their varieties of lemons and found them unsuited to our Florida conditions. Their lemons are picked green by size and cured and colored. When

picked green under our Florida conditions their varieties were shy on juice. If we let them grow until they contain adequate juice, they are too large, coarse and thick skinned for commercial use.

It was felt that a way of helping to dam up this stream of money flowing out of Florida for lemons, would be to agitate yard plantings for home and local use, of common everbearing and Villafranca lemons and Persian (Tahiti) limes. Many such yard plantings were made and some home owners are now paying all their taxes, state, county and city, from the sale of surplus lemons and limes from their yards, besides supplying home needs. Limes became popular and as early plantings made profits of more than \$1000 per acre per annum, the acreage was increased and there are now about 2000 acres of lime groves in Florida, mainly Persian variety. Although less than half the lime acreage is now of bearing size, the increased use of limes and home grown lemons has materially reduced lemon imports. Last year only about \$600,000 worth of lemons were imported into Florida. This saving of \$1,200,000 in annual outgo does not tell the whole story, for many thousands of dollars now annually come into Florida from limes shipped out. Two years ago

the Florida plant Board lifted the embargo against California lemons, and since then California has strongly competed with Italy for this big Florida lemon gravy, and now California is shipping an average of 3 car loads of her lemons weekly into Florida by rail, in addition to imports by boat at the ports from both California and Italy.

Although many prefer limes to lemons as ade drinks, the lime can never completely take the place of the lemon. Physicians, hospitals, bakers, chefs and housewives, demand lemons every day in the year, and these demands will be met, even if necessary to transport lemons half way around the world.

## The Perrine Lemon

Fortunately this Florida lemon problem that has baffled these of us who have worked with it, at last has been effectively solved. Some years ago Dr. Walter T. Swingle principal physiologist of the U. S. Bureau of Plant Industry became interested in Florida's lemon plight, and created a number of acid citrus fruit varieties by cross pollination. The object was to create a new lemon variety with sufficient lime strain to subdue the size, give a thin skin and plenty of juice. The particular cross that hit the nail squarely upon the head, was

(Continued on page 20)

# Investigate Making Wines And Brandies From Cull Oranges

By DONALD J. THOMPSON, in California Citrograph

In the belief that as satisfactory wines and brandies may be made in America as anywhere in the world, scientists of the U. S. department of agriculture, according to a recent report, have prepared a program of experimentation, which, if adopted, may lead to the utilization of considerable quantities of citrus and other fruits of surplus and low grades.

It is stated that considerable progress has already been made in the development of a variety of cordials from citrus fruits at the department's experimental station at Winter Haven, Fla., using oranges, lemons, grapefruit, tangerines and limes.

Along this line, Frank K. Anderson writes in The Citrus Industry, (Tampa, Fla.):

"And in the Louisiana Delta orange growing area they are going in for making orange wine in a serious way. An old recipe for orange wine brought to Louisiana from France more than a century ago is expected to be the foundation of a new industry. Three types of wine are being made commercially, a semi-sweet, a special dry and a champagne type. Three commercial wineries are now operating, and there is talk of a joint national advertising campaign for next year to educate the public to the taste and bouquet of orange wine properly made and aged. One Louisiana winery already has 150 barrels of its product aging in a bonded warehouse; and recently purchased 500 barrels and 200,000 pounds of sugar.

"Inasmuch as repeal of the 18th amendment made Louisiana 'wet' territory, wineries there are not handicapped by prohibition legislation.

"In Florida the commercial winery at Orlando is making most satisfactory progress. It operates under a federal permit to manufacture sacramental wines only, the 'dry' legislation remaining upon Florida's statute books being an absolute bar to its operation in any other manner."

While from the foregoing, the prospects of adding to the growers' revenue from this source appear rosy, the unfortunate, if not disastrous, results of past experiences with

various like schemes which were going to be such a boon to the citrus producers, should be recalled.

First, there was the canning of grapefruit and grapefruit juice. Florida went into this in a big way. While admitting that the canned product has become acceptable to some consumers since its introduction several years ago, it has accomplished little or nothing for the grower of the fruit. The canneries pay the producer only a widow's mite for the fruit itself and the canned fruit or juice, or at least a large part of it, goes into competition with fresh fruit.

Then there was the frozen orange juice deal. This entailed the quick freezing of juice in containers and the distribution and sale of it in the same manner in which milk is sold. This deal, which at first aroused such enthusiasm, in Florida particularly, soon turned sour and flat as did the processed juice.

Several inquiries have been made by growers and others as to why the Exchange Orange Products Co., owned by members of the California Fruit Growers Exchange, does not enter into the wine making business—using, of course, cull and by-product oranges.

E. T. Cassel, general manager of the Exchange Products Co., declares that from their experiences it seems impractical to make wine from orange juice, as wine to be salable in any quantity must have 16 to 18 per cent of alcohol. Wine is made by simple fermentation and orange juice does not contain enough sugar to make more than about six per cent alcohol. To add sugar, to build up the alcoholic content, or to fortify with alcohol after fermentation, would create a problem of labeling.

Brandy can be made from orange juice, as that is a distillation process. But in this there is the question of whether or not there would be an outlet for such a product. Mr. Cassel declares that in the products business the problem is not so much one of making a product, as of finding a market for it after it has been made. They are constantly being besieged to make something or other from cull

fruit, but of which they could not sell a carload a year. For this reason they have confined their operations to making products for which they can find a market at a profit, and which do not compete with fresh fruit.

Another factor is that the Products Co. has no connection with the alcoholic beverage trade, and no sales force trained to handle it.

And a bigger question is that of the diversity of opinion on the part of citrus growers as to whether or not they would care to be engaged in the business.

It must also be kept in mind that wines and brandies can be made from grapes at much less cost, in wider variety and have a consumer acceptance already established.

It would appear from all this that while it is possible to convert orange juice into brandy, perhaps even into wine, from an economic and even moral standpoint, citrus growers, in California at least, will better be served by leaving that business to others.

## Farmers Want Modernization Loans For Wells, Ponds

In the flood of inquiries received by the Federal Housing Administration from farmers and others who live in rural communities, these facts stand out clearly: Water is one of the most pressing farm problems today in large areas of the United States.

How to get money to dig wells or deepen old ones leads all the questions asked of the FHA by farmers.

Another question being asked by thousands of inquirers is how to get money to build dams for ponds and small lakes.

The answer to both questions is for the farmer, or anyone else living in a rural community, to apply for the necessary loan at the local bank or other lending institution. Modernization loans for the purpose of deepening old wells or digging new ones are authorized by the FHA, as well as ponds needed to conserve the

water supply.

Other new construction permissible for Modernization Loans and of special value in rural districts includes fences, gates, garages, poultry houses, smoke houses and any similar construction—always provided the proposed improvements meet with the approval of the bank or other lending institution to which the application for the loan is made. Also, the amount applied for must not exceed \$2,000, although the project may cost as much more as the farmer is able to pay for without borrowing.

Included also in the Modernization Program are ordinary improvements to the farm dwelling, insulation, reconstruction of faulty chimneys, strengthening of foundations, additions of new rooms and porches, installation of plumbing, heating systems, wiring and similar operations.

For many farmers who need wells, other things also are wanted. They state in their inquiries to the FHA that they need windmills, pumps, tanks, cisterns, piping troughs and other things in order to get the greatest use from the wells they hope to dig with their Modernization Loans.

All these improvements are eligible under the regulations governing Modernized Loans, according to FHA officials. When the regulations were first published, it was the general impression that these loans were barred for new construction of any kind, as the National Housing Act states that the loans must be restricted to "repairs, alterations and improvements upon real property."

Official interpretation of this part of the Act, however, include these classes of new construction under the head of "improvements," which they undoubtedly are. Wells and small ponds were specifically mentioned because of the volume of inquiries on this point and because of the great need for new sources of water supply by farmers in large areas of the Middle West and Southwest.

#### JAP BEETLE CONTROL ENDS FOR SEASON ON FRUIT AND VEGETABLE SHIPMENTS

The Secretary of Agriculture announced recently that restrictions on the movement of fruits and vegetables under the Japanese beetle quarantine regulations will be removed for the season on and after Sunday, September 16. The restrictions on cut flowers, however, remain until

October 15. Under the quarantine regulations, certificates showing freedom from Japanese beetle are required on shipments of certain kinds of fruits and vegetables until October 15. The effect of the order is to release the fruits and vegetables from that requirement a month earlier than is provided in the regulations themselves.

The inspection of fruits and vegetables is necessary only during the period when the adult beetles are abundantly present and in active flight. There is no risk that such products will carry the Japanese beetle after this active period. During the last few days the Department's inspectors have found no beetles in fruits and vegetables.

There is still danger, however, that the adult beetles may be transported in cut flowers. In cool fall evenings, the beetles have a tendency to crawl down into the flowers for protection. Therefore, the restrictions on the interstate movement of cut flowers and other portions of plants will remain in full force and effect until October 15, inclusive.

Restrictions on the movement of nursery, ornamental, and greenhouse stock and all other plants (except cut flowers and portions of plants without roots and incapable of propagation) are in force throughout the year and are not affected by the amendment.

## New Color Process Now Available

The new color process by which oranges are artificially colored through the use of a harmless food color is now available to the Florida trade.

This process was commercially demonstrated last year in California and in May of this year a similar commercial demonstration was made in Dunedin. Many Florida packers saw the Dunedin demonstration and without exception all agreed that a much more attractive color was provided.

The market reaction was very favorable. The colored fruit in each car sold for considerably more than the uncolored check boxes, convincing evidence of the advantage of better eye appeal.

It was also found that the better color gave a pack-out of more No. 1 fruit—about 15% in the Dunedin demonstration.

Coloring room time was reduced fully one half with less wilt, less mold and less stem end rot.

We will make you an exceptionally attractive proposition—on a per box basis—we to furnish all the equipment necessary to color without cost to you, you to provide necessary marking machines.

Write, phone or wire—we will see you at once.

### Food Machinery Corporation

Florida Division

B. C. Skinner, Mgr.

Dunedin, Florida

# Danger Lurks In Practice Of False Economy

During the years of the depression, the temptation to curtail expenses in the care and cultivation of citrus groves has been great, so great, indeed, that many growers have succumbed to the lure with the result that proper fertilization has been neglected, pest control has been reduced to the minimum and other cultural practices have been curtailed. The net result in many cases has been a marked deterioration in the groves.

However, it is evident that this tendency toward economy (?) in grove practices has not been confined to Florida. The following extract from a recent issue of the California Citrograph indicates that California growers have been addicted to the practice of false economy no less than the growers of Florida—and with like harmful results:

"We feel every sympathy with the citrus grower who in these troublous times is making an earnest effort to keep his grove expenditures within his income. He is not to be criticized for his efforts to economize.

"But we do feel as though it is our bounden duty to the industry which we aim to serve to point out a few facts, so that the grower may not unknowingly go to extremes in the matter and thereby wreck his entire life-long program. For citrus growing is not a one, two or five-year operation. It takes too many years to bring a grove into commercial production to regard it as anything but a long-term project. The federal government takes cognizance of this in allowing a depreciation based on 40 years of productivity for a citrus tree. There are many noteworthy examples where trees greatly exceed that limit, but we venture to say that good and consistent year-after-year care has contributed to this result.

"Winter has been kind to the citrus grower. In only a few districts was it necessary to light the orchard heaters more than one night. In the majority of districts not even that was required. True there is a greater than the customary investment in heater oil. That is due to the desire to take advantage of low price conditions. That oil in storage will be just as good next season.

"During the past few years cultural costs have been reduced. Most of this has been due to economies made in the effort at readjustment to meet low market conditions. There has been a steadily reduced irrigation program. Cultivation has been done much less frequently. These economies have been in line with advice of the University of California. There has been less pruning done. In many orchards not even the dead wood has been removed and that is now showing serious results in the scars which almost inevitably are made in picking even in spite of exercise of the utmost care.

"Many growers have restricted their fertilization program. Others are tempted to do so, the temporary saving appearing so alluring.

"Others have neglected their pest control practices or have limited them in the interests of economy. Due to favorable natural mortality conditions last year some growers got along very well and consider themselves fortunate in having saved money. But it is very different this year. The warmer weather, while saving on frost protection, has been favorable for an almost unprecedented build-up of scale insects. These must have attention this year.

"The temptation is strong to let everything go.

"Maybe the trees do not yet show the lack of their accustomed or consistent care. The grower may walk through his orchard and congratulate himself on the big crop the trees are bearing and may think that the leaves still have a healthy color. He may arrive at that self-satisfying state of mind where he feels that his former care was just an extravagance. He may even feel that his trees will go on indefinitely without nourishment, without water, without cutting out the dead wood, without adequate pest control measures.

"The writer cannot believe that the grower can afford to jeopardize his heavy investment by hewing too close to the economy line. It stands to reason that a citrus tree must have care. It must have food from some source. It is a delicate structure and must be shielded from the attacks of nature. It also stands to reason that nature itself will otherwise demand its toll, namely, lack of

production, rapid decadence or possibly death.

"The human system demands food. It demands care. Machinery must be supplied with oil, a tightening of the bolts and attention, otherwise the original investment is lost.

"Isn't it equally true that our valuable trees must have attention?"

"Just now there does appear to be more fruit than is needed. Possibly neglect is one way to correct this. It may eliminate the "border grove." If that is the objective, all right, but it is pretty hard on the man who becomes the voluntary victim through lack of care.

"In the writer's humble opinion the man who can and does continue, at least moderately, the good cultural care which his own good judgement tells him his trees demand, will, after the passing of the economic nightmare through which we are passing, awake to find that he has good fruit to send to market at the price which the restored buying power is ready to pay."

## F. H. RAWLS APPOINTED CHIEF FOODSTUFFS DIVISION U. S. DEPT. COMMERCE

Dr. Claudius T. Murchison, Director of the Bureau of Foreign and Domestic Commerce, has announced the appointment of Fletcher H. Rawls of Winston-Salem, North Carolina, to the position of Chief of the Foodstuffs Division of the Bureau succeeding E. G. Montgomery who for some months has been occupied with special research work with the N. R. A.

Mr. Rawls, a native of Deer Park, Ala., comes to the Bureau after a long specialized experience with foodstuffs. For nine years he was in Central America and Cuba in the production and exportation of bananas, sugar and other tropical food products. He was associated with the United States Sugar Equalization Board, New York City, during the period of Government Control of Sugar 1918-1919, during which time he conducted investigation in Northern Europe including Russia. Since 1920 he has been engaged in the manufacture and distribution of food products in the South.

# Pineapple Juice Prevents Discoloration Of Cut Fruits

New Discovery May Solve Long Standing Problem In The Use Of Sulphur Dioxide In Dried Fruit Industry

Fruit growers and fruit driers, long concerned over the well known tendency of many fruits and vegetables to darken at freshly cut surfaces, may be greatly benefitted by an unusual scientific discovery announced recently by the U. S. Department of Agriculture.

Dr. A. K. Balls and Walter S. Hale of the Food Research Division, Bureau of Chemistry and Soils, have found that apples will retain their original color if immediately after being cut they are simply sprayed with pineapple juice, a by-product in the canning of pineapples. In other words, merely by putting two agricultural products together, the value of both commodities is increased. In agricultural technology such a combination of circumstances is rare. Usually an improvement in one direction is a loss in another.

The Department has applied for a public service patent on the new process to make it available free to all residents of the United States.

For years commercial fruit driers have met the "darkening" tendency of fruits by treating them with sulphur dioxide. The dried fruit after "sulphuring" has a good color, but still contains considerable sulphur dioxide. This is objectionable to many consumers. Consequently, the dried fruit industry itself has diligently searched for a satisfactory substitute for sulphur dioxide.

Very little untreated dried apples, pears, and apricots are marketed. Slices of apple, for example, if untreated, retain their original color for only a few minutes and by the time they have been left in the air long enough to dry they are usually a deep brown. This is a serious loss because such dark-colored products are not received well on the market. It is impossible to prepare from them an article of food which even remotely resembles the original fruit in respect to color.

"What Mr. Hale and I really set out to do," Doctor Balls states, "was to find a method of preventing discoloration of cut fruit which could displace the 'sulphuring' process. We began with a long and highly theoretical study of the enzyme reactions which caused the darkening of the

fruits. We succeeded in producing these reactions in the test tube.

"As a result, it seemed to us that several classes of substances ought to possess the property of inhibiting the discoloration. Most of these were poisonous. However, one class was the class of sulphhydryl-containing amino acids and peptides, typified by glutathione and cysteine.

"We tried these substances on a variety of apple which darkens especially fast when cut. The substances did possess the predicted property, and to such an extent that only very small amounts were necessary to inhibit completely the darkening of apples."

The application made by Balls and Hale was very simple. The sliced apples were sprayed with a very dilute solution of the chemical and then placed in a drier where they were dried as in an apple drying plant.

Glutathione and cysteine are rather rare, although if there were any great demand for them they could probably be made cheaply enough.

"Now, we knew," Doctor Balls explains, "that the natural activator of the proteolytic enzyme in pineapple juice was also a sulphhydryl compound related to those with which we had experimented. So our next step was to spray the fruit with pineapple juice. The result was the same as with the chemicals, so far as inhibiting the color formation was concerned.

"This fruit, dried after spraying with pineapple juice, was covered with a thin film of dry residue from the juice. I do not see that this is objectionable. But it may be quite easily avoided by first fermenting the juice, removing the yeast and alcohol, and using the greatly purified liquid in the spraying process. The alcohol recovered more than pays for the cost of this chemical treatment."

Dried apples, treated with pineapple juice have been held in the laboratory for many months, in order to have a fair comparison with fruits as now handled in the commercial field. These apples are just as white now as they were when the treatment was first made.

While most of Balls' and Hale's work has been done with apples, the method appears to work well with

many other fruits and vegetables. "It should be understood," Doctor Balls adds, "that we have not been able to try it out on other fruits and vegetables sufficiently to make too definite a statement. We have to do more work on that."

This new discovery has vast commercial possibilities. In 1931, according to the Census of Manufacturers, there were produced 44,332,214 pounds of dried apples, more than 74 million pounds of dried apricots, and more than 50 million pounds of dried peaches. Most of these products were treated with sulphur dioxide, which now may eventually be displaced.

Florida vegetables, on the average, are as rich in minerals and as low in water content as those from other states, according to results of analyses by chemists at the Florida Agricultural Experiment Station.

Frank Kay Anderson

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### NEW CONTROL SET-UP

By the time this issue of The Citrus Industry reaches its readers, the new set-up of the Florida citrus control agreement will probably have been approved and promulgated by the Department of Agriculture at Washington.

While this agreement as originally outlined at a meeting in Orlando early last month, is subject to certain modifications in line with suggestions submitted, it is probable that these changes in the proposed set-up will be of minor importance and the main objectives sought by the department will be carried out in the agreement finally approved.

Floridians who have attended the conferences in Washington are agreed that the department officials are sincerely working to find a solution to the many problems confronting the industry. They agree that all suggestions have been courteously received and carefully considered. They are confident that the Washington officials will give the industry in Florida the best possible set-up that experienced men in the Agricultural Adjustment Administration can devise, and they are apparently determined to give their united support to the agreement when it is finally approved and put into operation.

If such united support is given, the new control measure will prove a success; without such united support, a repetition of last season's disrupting influences may be anticipated. Present indications are encouraging for a favorable reception of the new set-up.

Read what the California Citrograph has to say, elsewhere in this issue, about the false economy of curtailing on fertilizers and pest control. What is true of California is equally true of Florida.

### CAN FLORIDA RAISE LEMONS?

Can Florida raise lemons? That is a question which many Florida citrus growers have been asking for many years. Usually, the answer has been in the negative. Of recent years, however, there has been a growing conviction that some type of lemon might be developed which would be suitable to the peculiar conditions of Florida soil and climate.

Several new types of lemons have been developed which seem to give promise of successful cultivation on a commercial scale, and a number of growers have been giving serious consideration to the planting of lemon groves.

Perhaps no one in the state has given this subject greater study or devoted more time to its solution than Mr. David C. Barrow of DeSoto City, who is recognized as an authority on lime and lemon culture in this state.

The Citrus Industry takes pleasure in presenting in this issue an article by Mr. Barrow, setting forth some of his findings in regard to one of the new varieties of lemons which are being cultivated commercially in Florida. Evidently Mr. Barrow is enthusiastic in his belief that Florida soon will produce not only sufficient lemons to supply the local demand, but that it must also be reckoned with in supplying out-of-state markets.

Other varieties of lemons also are being developed and cultivated in the state and growers are watching results with much interest.

### CALIFORNIANS COMING

Early in November Florida citrus growers will have the opportunity and the pleasure of entertaining a number of their fellow growers from California and exchanging with them news and views regarding citrus culture and of discussing marketing and other problems of mutual concern and interest.

The tour of California growers is being sponsored by the California Citrograph, prominent publication in the citrus world and a leader in citrus thought in California.

The tour will embrace the citrus growing sections of Arizona, Texas and Florida, as well as visits to the Panama Canal Zone and other interesting points enroute. The party will leave Los Angeles on October 29 and will tour Florida groves and points of interest during the early days of November, returning to California on November 28.

This visit of California growers to Florida will give opportunity for rubbing shoulders with our principal competitors in the citrus field and should result in much benefit to the growers of both states. Florida growers should make the most of this opportunity to come to mutual understanding of the many problems shared in common by citrus growers of the two states, and to impress upon the visitors our desire, our willingness and our determination to co-operate with them in the solution of the difficulties confronting the industry.

Florida is soon to have a new citrus control set-up. Let's give it united support until it has had a fair trial.

We issued a challenge,

**Compare  
Results!**



**T**HE only way to compare fertilizer results is in the grove and field! The size and value of the crop and the condition of the trees are the true basis of comparison....not the glib arguments of salesmen, not mere promises of excellence, not the false temptations of cheap prices without quality.

Compare NACO Brand fertilizers in actual use! Compare actual results! Compare dollar for dollar profits with dollar for dollar cost.

We repeat our challenge. **COMPARE RESULTS!** You who have been using NACO Brands will find that the comparison confirms your own good judgment ....and you who have not been using NACO will begin to understand the mounting good-will NACO is gaining among growers who demand results.

**NITRATE AGENCIES COMPANY**

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**JACKSONVILLE - FLORIDA**



# IMPRESSIONS

By Frank Kay Anderson

Browsing through a lot of old papers . . . funny how largely junk accumulates . . . and here's a letter to us from Harold L. Ickes . . . dated November 20, 1914 . . . nearly twenty years ago . . . when he was a common, or garden, variety of lawyer in Chicago . . . Yeah, we knew him when— . . . but his signature is unchanged, so that's another item for our boy's already imposing autograph collection . . . And some old circulars from the American Farm Bureau Federation in 1922 . . . proudly announcing the birth of the Federated Fruit Growers as a national marketing organization . . . a deal cooked up by its Committee of 21 from various fruit areas . . . in which J. S. Edwards of the Gold Buckle Assn., then just recently withdrawn from the California Fruit Growers Exchange, played a most prominent part . . . a committee on which a former business manager of the Florida Citrus Exchange had accepted membership and begun to function . . . until Dr. Ross and the directors of the Exchange arose in wrath . . . And here's a 1923 circular offering \$275,000 bonds of the Waven Company, sponsors of the Haven Hotel at Winter Haven . . . If we don't stop digging up some of this stuff there'll be a congestion in our front yard after this appears in print . . . of folks looking to shoot us . . . And here's a picture of W. H. (Bill) Mouser, of W. H. Mouser & Co., Orlando, in '23 . . . when he was chairman of finances for the Florida growers and shippers who entertained the National League of Commission Merchants in Florida that year . . . doesn't look a day older now than when he was sales-manager of Chase & Co. at that time . . . for one thing, Bill hasn't lost any hair since then, as some of us have . . . And here is an ancient description by Willis B. Powell, one of our early Florida's outstanding personalities, of the "hobnob ski" a fellow he said, who alleged lived in Lake Wales, Lake county . . . "This fellow swam backwards to keep the water out of his eyes. It chewed tobacco and he kept it by hitting it over his head with a club when it

comes to the surface to spit." . . . Concerning which Rube Allyn at that time wrote: . . . "seems somewhat exaggerated, but we publish it for for what it may be worth." . . . And here is a letter to us dated February 3, 1919 from Hon. Arthur Capper . . . former governor, and at that time senator-elect, of Kansas . . . he had been here in Florida with us a few weeks previously . . . asking that we get George E. Koplin to ship a box of prize grapefruit to Mr. and Mrs. David M. Mulvane at 1035 Van Buren St. Topeka, with his compliments . . . It was on that trip that Senator Capper made a statement which has been much repeated since by Florida beautification advocates . . . seated on the terrace at the Villa hotel at Florence Villa following lunch, he said: . . . "I never knew Florida was like this. Why, if Florida will just spend one dollar for beautification where California has spent ten, this can be the most wonderful country in the world." . . . Wonder if he'd remember that now? . . . And by the way, we have done quite a bit in the way of improving Florida's looks since 1919 . . . And here is a letter dated at Riverside, California, June 20, 1922, from E. M. Brogden . . . when that former Winter Haven citizen was working hard to perfect his Brogdex treatment for fruit . . . a lot of things have happened in our citrus world since then . . . And a flock of letters from the late Dr. J. H. Ross of Winter Haven . . . distinctly our personal favorite of all the men, great and small, we've had the luck to know in our lifetime . . . Funny thing this, a long lost letter from the late C. W. Entzminger of Longwood, written in late 1922, concerning the candidacy of Hon. E. S. Matthews of Starke to be speaker of the House for the 1923 Legislature . . . the same Gene Matthews who has since been so long on the State Railroad Commission that the minds of many men runneeth not to the contrary . . . and who will be reelected this Fall . . . Gene Matthews was speaker of the House in 1907, so the record says, and a plumb good one then . . . Gene Matthews is one of very few examples of the successfully

reformed editor . . . but believe he still owns the Starke Telegraph . . . which he actively ran for many years . . . And a note from Rex D. McDill, when he was living on his grove at Riverview near Tampa . . . He's the guy who put the "ex" into Brogdex . . . he and Brogden being co-workers in the early stages . . . then a bust-up and court proceedings, following which they went their ways separately . . . Here's a real old one that is funny . . . but we'll pass it because the man is dead . . . But it is not necessary to go away back yonder for things which were deadly serious then but are humorous now . . . For instance, here's a magazine article we had put aside to read . . . It is headed: . . . "Chairman Stone Explains Farm Board Objectives," . . . and that was in August 1931 . . . But in the incoming mail, just opened a memory-stirrer that pains . . . a recent rotogravure section of a Chicago paper featuring events of the late war . . . reproducing, among other things, an early roster of the died-in-action in France . . . and by strange coincidence there's the name of our good friend, Lieutenant Knowles Oglesby of Bartow . . . one of the very first Floridians thus to go West . . . we rewrap the paper and mail it to his brother, R. M. (Bob) Oglesby at Bartow . . . And now to pass up the reminiscence and to come more nearly down to date . . . To record here the recent passing, in a northern hospital, of A. C. Terwilligar of Titusville . . . former head of A. C. Terwilligar & Co., fruit packers, and of the big juice and canning plant there . . . himself the inventor of the preserving process used there, it had grown to be a big business . . . no immediate heirs, the estate left to friends . . . and then, a very few days later, news of the complete destruction of the Terwilligar house and plant by fire of unknown origin . . . And one of Orange County's real pioneer citrus growers has passed, in the person of J. H. (Uncle Jim) Sadler of Oakland . . . who for many years had been one of our favorite people . . . at the age of seventy-five years, and after a most useful and constructive life . . . for fifty years

he contributed actively to citrus production and citrus affairs in his section . . . being an original homesteader in the vicinity of Johns Lake, and one of the section's very successful growers . . . a most progressive and useful citizen, a veritable repository of personal experience and sound common sense . . . he saw the progress from ox-carts to airplanes, and participated most actively in it all . . . West Orange will seriously miss Uncle Jim Sadler, as must the whole Florida industry of which he was a valuable, albeit a most modest, link . . . Returning from a stay in New York, George Berke of Orlando and Fairville tells of sections in that city where one must needs be an outright communist in order to participate in federal relief projects . . . sections of the city so overrun with outright members of the Communist party that they wholly dominate . . . and as much given to the practice of awarding the spoils to the victors as any of the old practical politicians . . . Which makes us proud of being a Floridian, and of living in Florida . . . We have a notion Florida is going to be about the safest place in these United States this coming twelve months to escape the communistic stir . . . that it is likely to be short shrift for the bolder sort here . . . and whispers already that highbrow parlor-pinks, who encourage those who have reason to know no better, may do well to purchase muzzles for themselves as protection against the night-air of Florida . . . one such highbrow inciter reported to have been very successfully reformed by the gentle but firm administration of a pint of castor oil by more thoughtful neighbors . . . administered through a tube, and the gentleman on the receiving end gently restrained for twenty minutes so that it was impossible to induce the return of the purifying fluid by a finger down his throat . . . There, as George Rector might say, is a recipe for inducing quiet and thoughtful behavior . . . It seems like castor oil carries in its wake so much of ridicule and laughter from our naturally fun-loving population that it makes no martyrs . . . and thus is a doubly effective agent of patriotic educational effort . . . The \$2,500 Antonia Trophy for the Moth sailing class comes to Florida . . . won at Atlantic City recently by Alfred Michael Jr. of Wabasso . . . son of A. B. Michael the well known East Coast grower . . . Jerry Wright son of Rollin Wright of Rockledge, competed in the same event, but unsuccessfully . . . The city of Lakeland gets into

the limelight in two ways by offering unlimited free orange juice to the ball-players as inducement for the return of the Detroit Tigers to that city as a training quarters next Spring . . . A. E. Fowler, president of the Lakeland chamber of commerce, was responsible for that . . . Our afterthought is that the inducement of free orange juice for thinking persons, and free castor oil for the other sort, may serve to put Florida right out in front this coming winter . . . We have had numerous inquiries from interested persons as to who was the author of that article on national citrus proration in the July issue which was signed "Commentator" . . . Until that gen-

tleman chooses, we are not at liberty to disclose his name . . . it is, we believe, the first time ever he has broken into print upon any citrus subject . . . though he has spent some time in both Florida and in California . . . Recent death of E. Percy Miller of Chicago, the great national potato operator, was a blow to the whole produce industry . . . he it was who founded the American Fruit and Vegetable Shippers Assn., in recent years the great national clearing house and active agent for reforms in produce handling practices . . . and aggressive representative of these industries in a national way . . . during the past five years, in failing health, he had spent much

## Without Impurities . . . DEATH !

*"A Pure Food and Drug Act for plants would be a death warrant to all living creatures."*

—SCIENTIFIC AMERICAN

READ the above statement again. It seems strange. Yet no truer words have ever been written. If all impurities were eliminated from the soil, no man, no beast, no living thing, could stay alive.

Chilean Natural Nitrate, for many years, has stressed the importance of its Nature-given impurities. This magic plant food is the only nitrogen that comes from the ground. It is the only nitrate that contains Nature's blend of rare elements. . . Nature's own balance of vital impurities.

So you see the importance of protecting yourself by specifying Chilean when you buy nitrate. There are two kinds, Champion Brand (granulated) and Old Style. Both are genuine Chilean. Both are natural. Both have the vital impurities. You are safe with either one.

## Chilean NATURAL NITRATE

THE OLD ORIGINAL SODA, NATURE'S  
OWN BLEND OF VITAL IMPURITIES



time in Florida . . . Those who are solely growers may not be aware, but those growers who also are shippers have reason to know of the National Code Authority Of Wholesale Handlers of Fresh Fruits and Vegetables . . . now there's a mouthful of name . . . it rules the roost in its field . . . and is budgeted to cost the participating shippers something more than \$160,000 this coming year . . . One of the biggest overcharge freight claims ever filled, we believe, is that of Arizona's Salt River valley lettuce producers and shippers . . . they seek modest refund of five millions of dollars . . . Green Orchard Farm near Winchester, Virginia, on August 25 was the scene of Senator Harry F. Byrd's annual picnic to apple growers of his state . . . as earlier noted here, Senator Byrd is one of the country's largest fruit growers . . . this picnic, instituted by Senator Byrd twelve years ago, annually attracts upward of 2,500 persons . . . a complete horticultural program is presented by experts during its progress . . . Following the recent Apple Convention in Detroit a lot of the participants went over to inspect the River Rouge plant of the Ford company . . . following that approximately five hundred of them sat down to lunch at the Dearborn Inn as the guests of Henry and Edsel Ford . . . after the lunch they drew lots for a deluxe V-8; and Charles A. Stewart, well known vice-president of L. Maxcy Inc. at Frostproof, being the lucky guy, drove it home . . . The Dominion Marketing Board is Canada's new version of our AAA . . . created by legislative action last June . . . its powers generally are much the same as those of our Agricultural Adjustment Administration . . . That somehow reminds of recently promulgated figures showing that prices of agricultural products in the U.S.A. are getting back to former figures . . . Which to our mind has little to do with the possibility of an ultimate satisfactory outcome . . . It is relative prices, not factual prices, which really count . . . as long as the one-third of our population engaged in agricultural pursuits receives only one-seventh of the national income things are likely to be out of joint . . . the agriculturists will not be able to consume enough to keep the rest of the country happy . . . artificial expanding of the incomes of special groups by legislation, when the bulk of the costs of such must fall upon the farmers will never bring things back into balance . . . An instance is the recent railroad pension law . . . that would

lay a burden of financing upon the railroads, the cost of which only can come out of freight rates . . . with the Interstate Commerce Commission charged by law to see that it does . . . And you didn't know that we were an economist? . . . Neither does Roger Babson . . . Harrison W. Ambrose wants all to know that he is not interested with anyone in building a new packing house anywhere . . . says the Ambrose groves have been members of the Exchange for 21 years; and that he intends continuing right along in the Florence Citrus Growers Assn. at Florence Villa . . . In case you didn't know, Harrison Ambrose is the "committee of one" who has been responsible for those outstanding Florence Villa exhibits at each year's Orange Festival at Winter Haven . . . We have kidded some about stabilizing the thermometer by act of congress . . . only to find that our Florida legislature by the simple process of passing a bill has officially transformed Lake Okechobee into a body of salt water . . . they omitted to have the act read to the vast population of fresh water fish in the lake . . . so apparently the fish do not know it yet . . . and somehow the specific gravity of the wa-

ter in the lake remains unchanged also . . . Maybe old Nature is in contempt of the Florida Legislature . . . The first A.A.A. activity recorded in this county, we believe, was when King James by edict forced the Virginia colonists to plant mulberry trees by way of preparing this country to become a silk worm center . . . Florida orange sherbet, sold in cones, made according to an old De Land recipe, has been a knockout at the Florida exhibit at Chicago this summer . . . Labor Day crowds alone consumed nearly twenty thousand of the cones . . . at ten cents per each . . . The Russian government purchased heavily of grapefruit, lemon and Satsuma stock from Florida citrus nurseries this past year . . . to be used in trials at citrus production in Russia's Black Sea area . . . Personal note to Dr. J. H. Montgomery at Gainesville: . . . a worm turns by first bending that portion of its body just above its hips . . . seems a qualified quarantine officer ought to know that . . . Wakulla Spring near Tallahassee the world's largest with a flow of 120,000 gallons per minute, recently has been sold to a company which intends to further de-

(Continued on Page 18)



Make a good  
job of it and  
use Chaco Fer-  
tilizer.

**CHASE & COMPANY**  
**SANFORD, FLA.**

What do  
you mean  
by "balanced  
fertilizers"?

•We're glad you asked that question Mr. Grower, because

—the answer is of vital importance

A grower writes: "What do you mean by 'balanced fertilizers'? I thought all mixed fertilizers were balanced."

That's a fair question, Mr. Grower—and we'll answer it frankly.

You often hear the word "balance"—something is out of balance—top heavy, not on an "even keel". Many fertilizers are like that. Regardless of their analysis, they may contain quantities of elements with which the soil is already over supplied. Again they may be lacking in the very plant foods your soil needs most. The fact that a fertilizer contains ammonia, phosphoric acid, and potash doesn't necessarily indicate that it's balanced. Not by any means. Certain rare metals (secondary plant foods) are also essential. And all elements must be de-

rived from proper sources—each correctly proportioned to suit your individual needs.

When you read "Gulf Brands are correctly balanced", it means that the right amounts of the right kinds of high grade materials are blended together to fit a specific soil purpose. It means that Gulf Brands are formulated to furnish safe, uniform crop nutrition over long periods. It means that the Gulf Brands recommended for your use contain correct proportions of all the plant foods demanded by your grove or farm. It is only natural that such Fertilizers, combined with the practical advice of the Gulf Field Men, should go a long way toward assuring profitable crop production.

Whatever you're growing you can profit by using *real balanced* fertilizer. Start now with Gulf Brands and Gulf Field Service. Then watch the difference.

THE GULF FERTILIZER COMPANY  
36th St. South of E. Broadway, Tampa, Florida



**GULF BRANDS FERTILIZER**

Whatever you're growing, there's a Gulf Brand to fit your exact need

# Values Found In Grove Cost Records

Systems Giving Dependable Figures Interest Growers

By JEFFERSON THOMAS

In discussing experiences with a farm loan agency of the federal government, Grower "A" has been quoted as saying to Grower "B":

"If our records as to grove costs and so on had been in better shape, we could have secured more money and gotten it with less trouble for all concerned."

Whereupon, Grower "B" is credited with responding: "Yes, I reckon so. Fact is, I've been thinking that if we had kept books on our operations we might not have needed to borrow anything."

Whether or not more accurate bookkeeping would have assisted a considerable number of Florida citrus growers in avoiding recourse to the United States treasury, it undoubtedly is true that in many cases the possession of fairly complete records has facilitated the granting of loans sought.

Values that growers increasingly are placing on systems giving them dependable figures on their operations therefore may be attributed in part to the need for these developed in negotiations for federal credit. In no small degree, on the other hand, the disposition toward regarding records as indispensable apparently is due to the feeling that they contribute helpfully in making fruit growing more profitable.

Grove costs and returns record program fostered by the State Agricultural Extension Service, now entering upon the fifth consecutive season, has furnished conclusive evidence of the enlarging interest in the subject manifested by growers. Gains in the number who have cooperated, marked in the second and third years, would have been registered also for the fourth and latest, but for the necessary diversion of Extension Service man power into emergency phases of farm adjustment procedure.

Record books which are offered by the Extension Service, and the aid it gives in effort to use them efficiently, have been more than ever in demand with the approach of the new shipping period for citrus. Requests can be complied with only in part, however, owing to the fiscal limitations gov-

erning the institution. In the administration of credit, crop reduction and marketing agreement features of the adjustment plans, need also may again arise for personnel to be transferred in performance of duties delegated to state agencies by the federal authorities.

Records for the past season are in process of collection. Extension Service workers from Gainesville make contact with growers, arranged for by county agricultural agents, at convenient points. In these personal interviews, each grove owner has prepared for him a summary of the more important factors in his figures for 1933-34. Findings for 1932-33 on the operations of properties from which statistics were obtained also are furnished to him and he is supplied with a record-book for 1934-35. Begun late in August, this field work will be continued through September and well into October.

## Facts the Records Disclose

When the collaborating grower commences to study grove costs and returns as portrayed in the third annual summary of the State Agricultural Extension Service compilations he will first be impressed with the figures showing the expanding scope of the endeavor.

In 1930, when the undertaking was launched, concern with respect to the objectives clearly was less prevalent than three years later. Records summarized for the 1930-31 season were only 118. In the next period, 1931-32, the number grew to 200. For 1932-33, the total had crept up to 268.

Records were obtained in ten citrus producing counties—269 of the 268 covering groves in the typical Polk, Orange, Lake and Highlands area. Eight represented the participation of scattering growers in DeSoto, Duval, Hendry, Hillsborough, Osceola and Pinellas. Groves varied in size from two to 590 acres and in age from four to 41 years, averaging 30 to 16 respectively.

Costs reflected in the calculations include all cash expenses plus interest and depreciation on equipment. Supervision was not charged unless hired but actual work done by owner-operators was, at prevailing rates for labor of similar type.

Interest on investments and de-

preciation on trees were not taken into account. Outlay was figured up to harvest, and returns at the price received net on the trees.

Items into which the expenditures were divided in making up the tabulations were as follows: labor, power and equipment; fertilizer; spray and dust materials; taxes; miscellaneous. Records were separated, for the purposes of the summary, to show the results on 73 groves ten years old or less and 195 of greater age. Figures were supplied by counties for the last-named group. On an aggregate of 158 groves they have been classified by operations, showing more in detail where the money went.

Relationship of age to costs and returns, in respect to the full 268 properties, is set forth in another table. Effect of the age factor on yields per tree, both for grapefruit and oranges is disclosed in additional analyses. Data summarized in still other conclusions give the average price per box by counties and detail the applications of available plant food, by method and amount. In the main, the findings require greater space for intelligent presentation than can be accorded in the limited space of a magazine article.

Ranging from \$15.88 to \$136.70 per acre, costs averaged \$44.91 for the 195 groves of exceeding 10 years in age and \$25.17 on the 73 under 10 years, with returns \$52.86 and \$14.17; net \$7.75 and minus \$11.00. On the 73 ten years or less, outlay ran to 81 cents a box, with returns of 46 cents, leaving the growers with a deficit of 35 cents.

It is natural for the cost per box in young groves to be high, since the trees have not attained full bearing, and the expense of developing the trees must be counted.

For the 195 ten years old or more, outgo was 37 cents a box, income 43 cents, net profit, aside from interest and depreciation, six cents. Lake county groves showed the highest net returns per acre and Polk's the lowest, the difference having been accounted for in part by seasonal conditions, including time of maturity

*Citrus Grove records*

for the bulk of the crop.

#### Figures Covering Three Years

In the initial season of the enterprise, 1930-31, a total of 118 growers kept records. Of these, 62 continued to do so and furnished figures both for 1931-32 and 1932-33. Yields averaged 177 boxes per acre for the first year, 150 for the second and 168 for the third.

Costs in the three periods ran to \$81.97, \$73.27, and \$61.85 per acre, respectively, while income was \$127.37, \$140.41 and \$75.17, with net of \$45.40, \$67.14 and \$13.32. On a box basis, the costs, returns and net averaged: 1930-31, 46, 72, and 26 cents; 1931-32, 49, 94 and 45 cents;

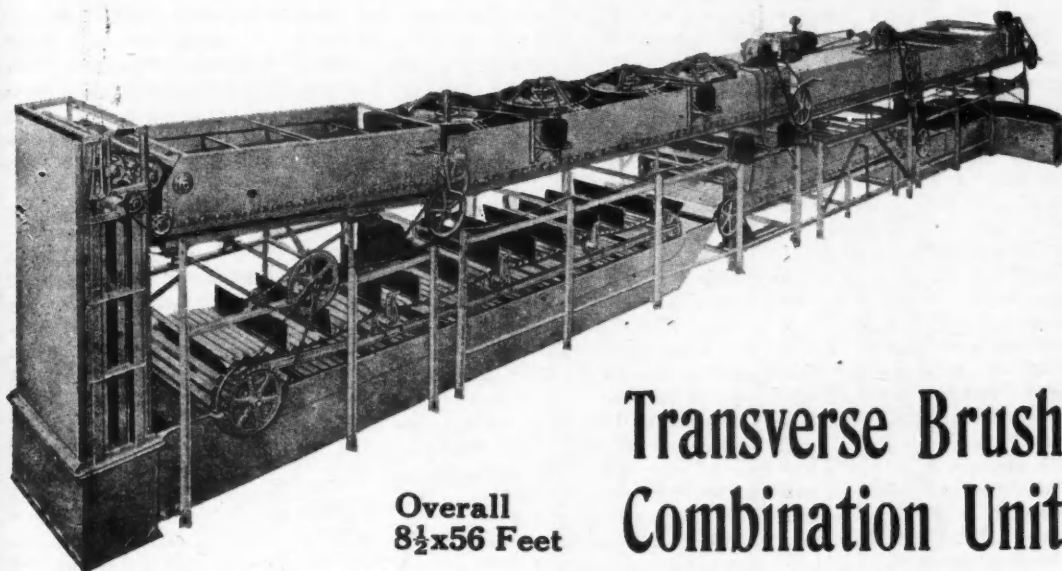
1932-33, 37, 45 and eight cents.

Reductions in grove costs were attained in the aggregate 62 instances during the three seasons of from \$81.97 to \$61.85 per acre. Fertilizers showed the greatest percentage of decline, falling \$11.09 to the acre. Man labor, power and equipment outlay decreased \$6.67 per acre for the period. Spray and dust materials alone registered an increase, of \$1.53 an acre. Taxes, even, were on a descending scale, dropping \$1.36 on the acre unit.

Gross returns and net alike were higher in 1931-32 than for either of the other two seasons. Top net, of \$67.14 per acre attained that year, would furnish only 7.4 percent, on

a \$900.00 per acre valuation, for interest on investment and depreciation of trees. Five percent would be provided for these purposes by the 1930-31 net of \$45.40 while the 1932-33 figure of \$13.32 would afford less than one-and-one-half percent. Fertilizer was applied so that amounts of available plant food remained practically the same.

(Information concerning the grove costs and returns project, with copies of the third annual or 1932-33 summary, may be had by citrus growers who desire to apply the formulas to their own bookkeeping. Inquiries should be addressed to the agricultural Extension Service, University of Florida, Gainesville.)



Overall  
8½x56 Feet

## Transverse Brush Combination Unit

This complete combination packing unit makes possible some very important economies in plant and equipment investment. It introduces more efficient packing practices which reduce plant overhead, lower general labor, maintenance and replacement expense and reduce necessary depreciation charges, yet at the same time this unit maintains a high type of performance, improving grades, reducing spoilage and turning out a cleaner, brighter and more attractive pack.

Our picture shows an 8-car outfit with Brogdex installed in the line. The overall measurements are 8½x56 feet. In this space the fruit is thoroughly cleaned, dried, polished and Brogdexed. Unifying all of these operations in such a limited space reduces costs all along the line.

While the principal machines can be operated individually they are all assembled as one compact unit, work in unison and each is so timed that there is always a steady flow forward with no crowding or piling up and the entire operation provides for surprisingly gentle handling throughout.

Brushes, rolls and similar parts are all removable and interchangeable making replacements a simple matter. The drives are all of the V-belt, silent motor type, eliminating line shafting, bearings and transmission and will run through a season with a minimum of attention.

All of this equipment is made of Toncan iron and steel with electrically welded joints insuring rigidity, perfect alignment and long life.

This complete installation may be seen in operation at Jos. Fichelberger & Co., Eustis

## FOOD MACHINERY CORPORATION

B. C. Skinner, Mgr.

Florida Division

Dunedin, Florida

## THE GROWERS' OWN PAGE

### AS A CALIFORNIAN SEES IT

Editor Citrus Industry

Tampa, Fla.

Dear Sir:—

Someone in Florida was kind enough to send the writer a story published in your July issue under the caption: "National Proration of Citrus Shipments," by an unannounced contributor, simply stating "The Commentator."

I have a great many friends among the orange growers and shippers of Florida, and I am very much interested in the citrus industry, having been in the business in California for almost fifty-one years, and what I have accumulated in that time is invested in the orange orchards. I want to express my viewpoint to you without asking you to publish it. It is for publication if you so desire. It is to this extent:

Do not let the orange growers of Florida spend any money in advance hoping that conditions are going to improve, or borrow from the Government or any other source, on the strength of the statement of this Commentator, that the navel orange growers of California be forced out of business.

This Commentator is evidently not familiar with the facts. He does not publish the cost of growing oranges. He does not publish the facts on the picking, hauling, packing, and selling of Florida oranges. He only makes a bald statement that it is so much less per acre. He does not know what it costs us for fertilizer, heating, etc. He evidently does not know that many thousands of acres of our orange groves require no heaters. He evidently does not know that many thousands of acres of our orange groves are irrigated from the mountain streams at a very, very small cost. He evidently knows nothing about the cultivation. Many thousands of acres of California orange groves are cultivated but once or twice a year to keep the weeds down more than for any other purpose. Large sections are in very sandy soil and some growers never cultivate at all, except once a year when they cultivate the land and run furrows for irrigating, letting it lay for the rest of the year.

He entirely overlooks the fact that practically all of Canada prefers the

This department is devoted to the growers, for their use in giving expression to their views and a discussion of growers' problems. Any grower is welcome to make use of this department for the discussion of topics of interest. The only requirements are that the articles must be on some subject of general interest, must be reasonably short and must be free from personalities. The editor assumes no responsibility for views expressed, nor does publication imply endorsement of the conclusions presented.

California navel orange and that all the western states prefer California oranges, and that practically the only preference given to Florida oranges is on the Atlantic coast. The writer will concede that this is a considerable portion, but the gentleman should remember that now the center of population has almost reached the western point of Indiana, and that from Chicago west the entire section will buy California oranges in preference to any other orange that grows. His dissertation on the quality of the Florida orange as compared with the navel oranges, if it were not serious, would be amusing.

Now if the gentleman who wrote this communication will just secure from a reasonably large source the amount that it costs for pest control, for picking, hauling, packing, fertilizer and all other expenses connected with the orange grower's expenses, the writer will be glad to furnish the same from California. Let him bear in mind that Florida uses a box holding approximately 20 pounds more per box on account of the size of the box as compared with California.

I am not criticising the gentleman, but I want to advise you that it is unsafe and unsound to go ahead on the theory that you will put California out of business.

Incidentally, it is high time that the Florida orange growers get together down there. You are a disrupting element to the citrus industry. California, as you know, is working under this agreement as we have outlined to the Secretary of Agriculture. Texas is ready, and we are only waiting for Florida, and it is not presumable that the citrus industry will allow Florida to dictate to the entire citrus industry how things are to be carried on and in what manner. Give this your careful consideration.

The writer has no interest whatever in either side of the story of the

difficulties in Florida, but it is up to the Press of Florida to insist on them coming to some kind of an agreement and carry on in a way beneficial to all growers and not to any one section of the United States or any particular district in any certain state.

Yours very sincerely,

C. M. BROWN  
Redlands, Cal.

### IMPRESSIONS


(Continued from page 14)

velop it . . . that is where for many years Florida politicians have been accustomed to make their announcements when running for state offices . . . The spring is 400 feet across and eighty feet deep . . . which is considerably deeper than some of the politicians . . . but not quite so deep as John S. Taylor who once announced there . . . We always like to oblige a lady, so at the request of Mrs. Sol Wittenstein of Orlando, we shall in the future refrain from mentioning her husband, the well known Orange County grower, in connection with ham sandwiches . . . Which brings up quite an idea . . . recently the government has been paying farmers for refraining to raise hogs . . . the more hogs one refrains from raising the more the pay . . . a guy who is a Class A refrainer can collect quite a sum from Uncle Sam for using his self-restraint in the matter of raising hogs . . . Now why not extend the operation to cover writing . . . and why not arrange to compensate writers for refraining from mentioning things some persons would prefer not to have mentioned . . . Gee! What an idea! Our income would be about a million a month . . .

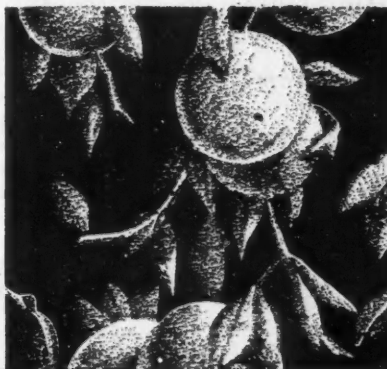
### LAST CALL FOR CITRUS WHITEFLY FUNGUS MADE

Gainesville, Fla.—Last call for citrus whitefly fungus this year is being sounded by Dr. E. W. Berger, entomologist with the State Plant Board. He still has available some cultures of red aschersonia which can be distributed in groves and will aid in the control of whiteflies.

Cultures can be obtained from the State Plant Board at cost of production, \$1 per culture, and should be applied to the groves immediately.



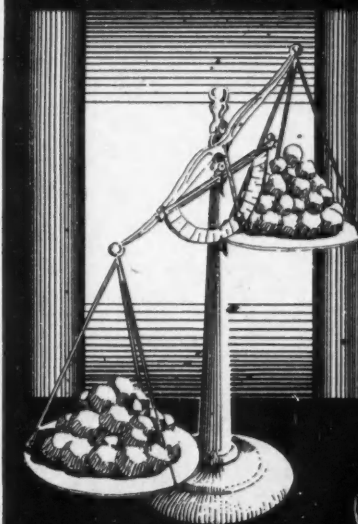
# Your Profits



## THIS YEAR AND NEXT

CROPS that grade in accordance with U. S. Standards ... fewer drops caused by leaching rains ... longer profits—a fall application of Armour's BIG CROP Fertilizer pays immediate returns in these, and next year the same application will still pay dividends in healthy growth and bloom ... the necessary forerunner of another quality crop. Experienced growers won't experiment with this important application. They know that profits this year and next hang in the balance ... and they know, too, that Armour's BIG CROP Fertilizers are carefully balanced to meet their particular needs. To get to the heart of your problem has been the object of the Armour Fertilizer Works for the past 38 years and we know that your prime object, as a grower, is to produce high-quality fruit. Armour's BIG CROP Fertilizers are made with this idea in mind. They contain all of the forms of plant food that your crops require and are properly combined and scientifically balanced. Give your grove an extra chance this year and next by a liberal fall application of Armour's BIG CROP Fertilizer.

### THEY HANG IN THE BALANCE



# Armour's

# BIG CROP

# Fertilizers



If you are in doubt concerning the exact formula for your grove, ask to have the Armour field representative make a study of your needs without cost or obligation.

ARMOUR FERTILIZER WORKS  
JACKSONVILLE, FLORIDA

# DAMMING A \$30,000,000 STREAM IN FLORIDA WITH LEMONS AND LIMES

(Continued from page 5)

the Genoa lemon of Sicily as the male parent, crossed upon the Mexican lime as the female parent. The hybrid resulting from this cross was given the official name Perrine Lemon (C. P. B.48848.)

I obtained bud wood through T. Ralph Robinson senior physiologist of the U. S. Bureau of Plant Industry as soon as it looked promising, developed trees upon various root stocks and set them to growing on various soil types in South Florida.

They cannot be developed from the seed and propagation by bud is the only practical method. They presented some peculiarities in propagation, some of which we have solved, and others we have partially overcome.

Trees, foliage and fruit of the Perrine lemon are immune to scab, withertip and brown rot, (fungus diseases that adversely affect most other citrus varieties) eliminating losses therefrom as well as the cost of control measures. The fruit is much the size, shape and color of present lemons of commerce, being 2 to 2½ inches in diameter, by 2½ to 3 inches in length. The fruit has a smoother texture, thinner skin, and contains more juice than present lemons of commerce. The flavor is a typical lemon flavor with no "off flavor" nor after taste. The acidity of the juice is constant and uniform whether picked green and colored and cured or allowed to tree ripen, and ranges from 6.39 percent to 6.47 percent in ratio of anhydrous citric acid content as compared to the widely fluctuating ratio of acidity in present commercial lemons. Bulletin 993 of the Bureau of Chemistry of the U. S. Department of Agriculture, shows an exhaustive study and tests of California lemons to find out the causes of their wide variation in acidity. The tables in this bulletin show variations from less than 5.00 percent up to more than 7.00 percent in ratio of anhydrous citric acid.

By using "so many ounces" of Perrine lemon juice, the housewife, the baker and the chef may secure absolute uniformity in their various flavorings—something heretofore impossible. Where the Perrine lemon is available on the few markets it has so far reached, and housewives and other users learned of its excess value, they are paying a premium for them. Perrine lemon trees are den-

## THE CITRUS INDUSTRY

September, 1934

sely foliated, and have powerful and efficient digestive organs. This, coupled with their freedom from the ravages of fungus diseases and pests, gives them ability to utilize water and fertilizers more rapidly than any other citrus trees, and convert them into tree growth and fruit production. They will stand forcing better than any other variety and do it without getting ammoniated or thrown out of balance. Under heavy fertilization and adequate irrigation, the Perrine lemon will outgrow and outbear any other citrus tree in the world.

The accompanying two photos show ideal Heavy Duty Performing Type of Perrine lemon trees in the writer's yard. The close-up view was taken April 20th, 1934, 10 days before the tree was three years old from the bud. The outer foliage was tied out of the way and some leaves pruned off, to give an exact picture of the fruit as it hung on the inside of the

tree. The other photo showing the writer standing beside a Perrine tree, was taken August 4th, 1934, when the tree was three years, three months and four days old, it being 14 feet tall and 12 feet spread. Two boxes of lemons per tree were picked from these trees August 6th, 1934, cured and colored, and some of it used by County Agent in the Highlands County exhibit at the Chicago Fair August 13th to 20th. There are about 2 boxes of fruit per tree left which will be ready for shipment in September and later. These trees bore about 300 lemons per tree last year when two years old, and have since been severely cut for bud wood. Various plant pathologists, physiologists and experts who have made numerous inspections of these remarkable trees, state that "they hold a record of profitable performance never before attained by a citrus tree of any variety growing anywhere at any time"—a world rec-



Three-year-old Perrine lemon tree and the author Mr. Barrow

ord for all time.

#### It Fits An Economic Market Need

Although lemons are used every day in the year, the months of greatest demand are June, July, August and September. California and Italy are now fairly well supplying the market needs for lemons during the eight months from November until the following June. The Bureau of Agricultural Economics of the U. S. Department of Agriculture, gives the following figures as the available supplies of lemons in the markets of the U. S., being the 5 year monthly acreage for the years 1929 to 1933 inclusive, including both California and foreign imports, the latter reduced to car lot equivalents.

Lemons—car lots, 5 yr. average supplies.

January	1107
February	912
March	1357
April	1668
May	2510
June	2910
July	2329
August	1172
September	882
October	773
November	740
December	849

It will be noted that the available supplies of lemons begin to shrink after the peak movement of May and June, and available supplies are hopelessly inadequate for the market needs during the heavy demand months of August and September. A market expert advises me that the markets of the U. S. and Canada would readily use at fair prices, additional car loads of lemons if they were to be had, of 1000 in July, 2000 in August, 2000 in September, and 500 in October, in addition to the present available supplies.

We are making the Heavy Duty Performing Type of Perrine lemon trees fit into this economic market demand, and supply 75 to 80% of their total annual production ready to go onto the markets just when and as needed during those four months of heaviest demands when other sources of supply are inadequate.

The price range from July to November is usually higher than at other times of the year, furnishing the incentive for Florida to supply those unsatisfied market needs.

If we pick and ship before November our lemons will need coloring and curing as is always done in Italy and California. They naturally color and tree ripen in November and need no additional coloring thereafter. When left on the trees until fully

mature they do not become oversized, as do other lemons. Handled either way they are of good commercial size, and with thinner skin and more juice than any lemon now grown. Perrine lemon trees are of an everbearing nature. Some trees have shown greater response to forcing so as to swing 75 to 80% of their total annual production into those high priced and inadequately supplied 4 months markets. These we call the Heavy Duty Performing Type. Our slack period, May and June, coincides with the flush period of other supply sources—a perfect fit into a world need.

In order to most profitably fit into the market needs, several things are essential: First, a well protected location where trees and fruit are safe from cold damage when being forced and full of sap, bloom and tender growth during fall and mid winter. Grove heaters and smudge pots are not practical in Florida as they are in California and an outstanding location selected to begin with, is the

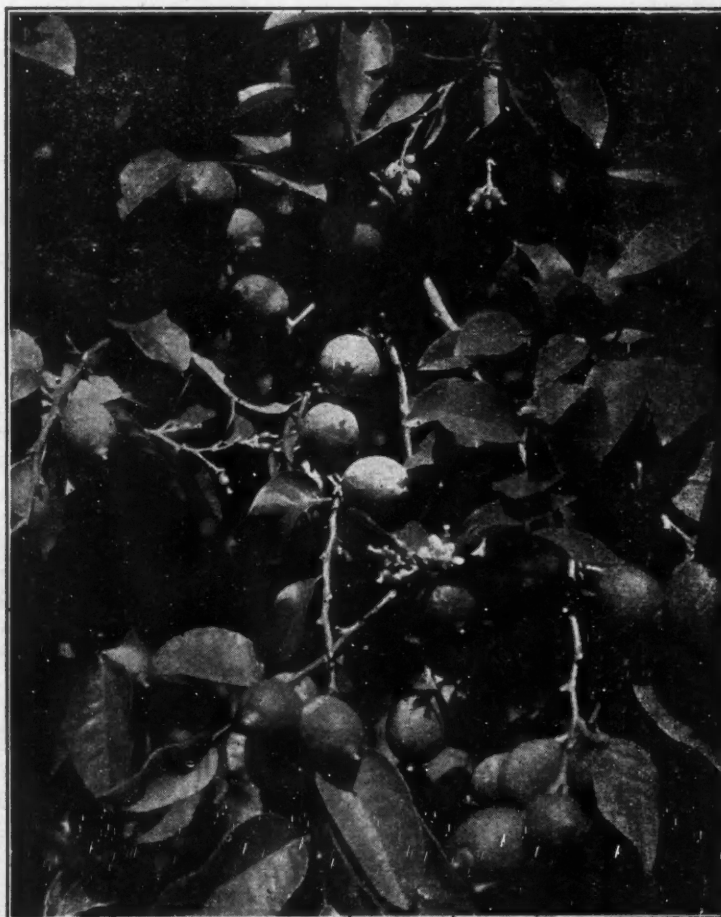
only protection one may rely upon. Second, use only trees of the Heavy Duty Performing Type, from proven bearing parents that have unfailingly responded to forcing, so as to set as much fruit as they can hold by blooms forced out between October 15th and January 15th. Third, an efficient irrigation outfit that can evenly place 1 to 2 inches of water upon the grove within not to exceed 3 days time, and do it when and as necessary, especially during the forcing period. Fourth, plenty of good fertilizer of the right kind when and as needed. Fifth, an intelligent handling of the whole proposition so as to efficiently do the proper thing at the right time.

#### General Information and Conclusions

What are some of the pronounced advantages which Florida will have over competitors in this race for the lemon dollar now looming on the horizon.

We will have a superior article, that brings more per dozen and more

(Continued on page 24)



Perrine Bud Wood tree of best type. Tree less than three years old, contained 1086 lemons.

## Cost Of Producing Valencias Reported For Orange County

Farm Advisor Wahlberg Tabulates Figures Showing Most Growers Had Income Exceeding Cash Outlay in 1933

Production costs have generally been brought down to the minimum, states Harold E. Wahlberg in reporting on the eighth year's analysis of Valencia orange production costs and returns in Orange county. This study covers in detail the figures for 58 representative groves in Orange county and furnishes a good cross section of the summer orange industry in the southern coastal area.

According to the report the past year, 1933, was the third consecutive year of high yields, the average being 241 packed boxes per acre. Quality, however, was the poorest since 1928, and the returns per box and per acre were the lowest in the eight years recorded.

"Notwithstanding low prices," says Mr. Wahlberg, "88% of the mature orchards returned more than cash costs which include labor, material and taxes. Average cash costs in 1933 amounted to \$126.74 per acre as compared with \$244.75 in 1929, a reduction of almost 50%. The 10 high orchards in the study returned an earning of 8% on an average investment of \$1942 per acre, while the average rate of earning by all orchards reporting last year was 2.8%. The average return for the eight year period was 11% on an average investment of \$2154 per acre."

Taxes averaged \$21.57 per acre in 1933 as compared with \$28.78 in 1932, a reduction of 25%. Mr. Wahlberg points out that poor yielding orchards that year were a liability rather than an asset. He shows this in a comparison of the 10 most profitable and the 10 least profitable orchards.

The 10 most profitable groves produced an average of 322 packed boxes per acre; the least profitable 145 boxes, and the average of all orchards was 241 boxes. Total cash costs per acre for the high yielding group amounted to \$128.34 per acre, for the low group \$106.30 and the average \$126.74. This left an income above cash costs for the high group of \$193.16 per acre, for the low group minus \$8.99 and for all orchards \$89.88 per acre. If depreciation and interest on investment are deducted from these figures, the

Editor's Note. — Of late much has been said and much written as to the comparative costs of production of citrus fruits in Florida and California. The following article reproduced from the California Citigraph will be of interest to many Florida growers who have been making a study of this question.

net income of the high group amounted to only \$39.20 per acre, for the low group minus \$148.64 and for all orchards, minus \$58.01.

There was a wide range in costs for individual items. Cultivation, for example, varied from \$3.70 per acre to as high as \$30.90 per acre. The average was \$11 and the more profitable group reported only \$8.26 for that operation. "It is thus apparent," says Mr. Wahlberg, "that some growers may still reduce expenditures, while some are economizing unwisely or of necessity."

"In the eight year period, irrigation cost has shown little change," Mr. Wahlberg declares. "Fertilizer

expenditures have declined considerably, due first to lower prices for material and labor; secondly, to selection of simple and more economical materials and thirdly, to the omission of needed fertilizer materials. There has been little decline in the average annual pest control cost. Cultivation has made an appreciable decline and pruning costs have shown a downward trend."

Many growers applied too little fertilizer in 1933—not enough to maintain good tree vigor for another year, says Mr. Wahlberg. Profitable orchards spent more for fertilizer than did the least profitable. They also spent more for pest control.

A comparison of the figures for the past eight years shows that irrigation costs of \$23.94 per acre last year, compared with the 8-year average of \$27.89. The highest irrigation cost was in 1926—\$30.81 per

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A steel fireproof building located in the heart of the city

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acre. Fertilizer labor and materials cost \$17.80, compared with \$25.37 in 1932, \$50.90 in 1931, and an average of \$50.80. In 1930 the cost of fertilization reached \$71.12 per acre.

The average annual pest control cost in 1933 was \$14.03 per acre, compared with the 8-year average of \$26.69. This is an average of the total cost spread over the entire acreage in the study. In some orchards no spraying or fumigating was done. Cultivation cost averaged \$11 per acre, compared with the 8-year average of \$17.25.

The total cash costs in 1933 of \$126.74 was the lowest ever reported. It compared with previous years as follows: 1932, \$166.11; 1931, \$217.61; 1930, \$225.93; 1929, \$244.75; 1928, \$230.77; 1927, \$231.08; 1926, \$190.73.

Copies of this report are supplied to all the cooperating growers in the study. In that way the individual grower may make a comparison of his costs with those of other growers.

Mr. Wahlberg, in pointing out that growers have reduced their cultural costs to about the minimum, said they should now turn to better prices for their profit. This opportunity lies in collective regulation of shipments and standardization of grades. Unani-

## THE CITRUS INDUSTRY

mous support of the marketing agreement will accomplish better results to the grower in face of surplus production and weak markets, he declares.

### GROVE COSTS STUDY IN CITRUS MEETINGS HAS GROWER APPEAL

With the need for complete grove records greater than ever, citrus growers are manifesting correspondingly increased interest in the meetings begun this week, at which the principal feature is a discussion of cost keeping systems, field workers have reported to the State Agricultural Extension Service, sponsor of the movement for improved methods in this field.

First of these conferences held during the current year took place in Lake County on Monday, Tuesday, and Wednesday, August 27-29. Meetings in Orange County were held the following three days. On Monday, September 3, a six day series got under way in Polk County. Hereafter, other sections of the citrus belt are to be covered.

Details are arranged by the county agents, to inform growers as to the times and places for the gatherings

Twenty-three

in the several communities. Grove cost records devised by the Extension Service receive full explanation at each meeting from Frank W. Brumley and R. H. Howard, specialists in agricultural economies.

Information presented by them includes summaries of the accurate records kept last year by 228 growers in 10 counties, who had 8,040 acres of grove in cultivation. A three year comparison of costs on 62 groves is given in addition.

Farm credit regulations and related federal adjustment activities require more complete grove records than heretofore have been the rule.

## FOR SALE

Lists of Florida Citrus Growers compiled from recent survey of groves, arranged by counties. Name, address, acreage and legal description.

Also list wealthy residents of Florida.

**W. L. Lamar**

P. O. Box 333

**JACKSONVILLE, FLA.**

## The Best Market In Florida

Is made up of the citrus growers of this state.

The logical medium through which to appeal to this group is

## The Citrus Industry

because it is addressed solely to this group of readers.

A lot of advertisers have already learned this.

—A trial will convince you of the wisdom of this course.

## "The Trade will only pay full price for fruit that is fully and evenly colored"—says prominent Fruit Exchange Executive

This is especially true of Citrus fruits . . . fruits which will *not* color, fully and evenly, by other processes.

No wonder, then, that leading Fruit Exchanges and Associations, working with U. S. Department of Agriculture, have sought . . . and found in the use of **Ethylene Gas** . . . a method that *does* color mature fruits fully and evenly. Result! **Ethylene** colored fruit brings top prices . . . gets to market when the price is right, too . . . because fruit can be completely and evenly colored, when wanted. Colored in a short time, too . . . on the average  $\frac{1}{3}$  of the time it takes by other methods. Cost? Only a few cents a full carload of fruit.

Learn about **Ethylene** fruit coloring. Write for the **FREE** Booklet we offer . . . talk, too, with your Exchange Officials.

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If so, pick them green-ripe and color them with **Ethylene**. You get them to market 2 to 4 weeks earlier than waiting for field ripening. Defeat field mice, wire worms, sun scald, cracking, wind and hail damage.

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This 20-page Booklet, issued by the largest suppliers of Ethylene to the Citrus Industry, tells the story of Ethylene Gas for coloring mature fruit and vegetables . . . explains how it is used . . . by Fruit Exchanges and others. Write **Carbide and Carbon Chemicals Corporation**, Desk C, 30 East 42nd St., New York.

Unit of **Union Carbide** and **Carbon Corporation**



### DAMMING A \$30,000,000 STREAM IN FLORIDA WITH LEMONS AND LIMES

(Continued from page 21)

per box—a sales advantage. With a more rapid growing and heavy bearing tree; with fewer culls; with immunity to fungus diseases and insect pests; with less cost of spraying and control measures; with no cost of grove heating; and with a materially less cost of irrigation, we will naturally have a much lower cost of production, "on the tree." Our cost of picking and preparing for market will be less. Since the east half of the U. S. and Canada in which we will compete, are nearer to Florida, our cost of delivery will be lower. These advantages are in a measure fixed and unchangeable for they are based upon economic facts which competitors can neither overcome nor evade. It is said by experts that the Perrine lemon will not fit into the growing conditions of California, nor Italy, just as their varieties do not fit into our conditions, and therefore they cannot appropriate our powder to their use.

A search of world economics does not reveal within the present generation, a single parallel case in any major industry, like this Florida lemon situation affords, where, without a single exception, all of the numerous economic factors involved, are so strongly and unalterably arrayed on one side.

With four of the heaviest consuming months only partially supplied, the U. S. markets nearest to Florida which may be termed Florida's home markets are now paying out annually over \$15,000,000 for lemons that are inferior to the Perrine lemon in quality and value for the money. And \$6,000,000 of this is annually flowing out of the South, right by Florida's front door—\$600,000 of it coming out of Florida's own dinner pail.

Will Florida measure up to the unparalleled opportunity which the advent of the Perrine lemon presents, take charge of her own "home markets", and fatten upon the profits now going to other climes? As evidence of her intentions in this direction, there has been planted to Perrine lemons 300 acres in Florida within the past 18 months. Lands are being cleared to more than double that acreage during the coming winter. Not only has Florida become lemon minded, but people with vision and capital from other states are coming into Florida and getting into this promising new industry. A wealthy banker from the east has ac-

quired lands on the Ridge and is preparing to set Perrine trees. A dean of one of the large Agricultural Colleges of the North Central States, after a thorough study and investigation, has purchased 75 acres of well protected land in the Scenic Highlands section lying South of a deep lake and already set a portion to Perrine trees, and will complete the rest in November and move to Florida onto the property to give personal supervision, resigning the college position he has so long and honorably filled.

By far the greater portion of the acreage so far set and to be set during the coming season lies in the Scenic Highlands or Ridge section. In a radio broadcast August, 6th, 1934 over station WRUF of the University of Florida, one of the Agricultural Extension men said of the Ridge section, "the protection from frost afforded by the rolling hills and deep lakes which compose the Ridge in Highlands county has been a guiding factor in the development of subtropical fruit culture in this section. The deep lakes temper the climate in the winter and make it much cooler in the summer, while hills give added protection from cold by air drainage." Next in importance is the Ft. Myers section and islands nearby, and then comes the lower Miami area and the Redlands. The coastal sections being subject to occasional high winds, we recommend that lemon and lime plantings there have wind breaks grown around them to reduce damage therefrom, this not being necessary in the Ridge.

There are a few isolated locations elsewhere in several South Florida counties where lemons and limes may be grown, but topographical and other considerations will cause the lemon industry naturally to center around the above three named sections, with the Scenic Highlands being the major one. There is no risk of overproduction of lemons for the 4 months now so inadequately supplied, for commanding locations essential to grow them are limited.

An example of an ideal Perrine lemon planting is the 120 acres set by Breezy Point Groves of Babson Park, of which H. W. Bennett, the tung oil king, is president and his son R. W. Bennett, is secretary. This land lies along the southeast shore of Crooked Lake, has water protection, altitude and air drainage. Efficient irrigation that will water every tree in 3 days is provided. It was well planned, is being efficiently administered, and results never before equal-

led from a similar sized citrus acreage in Florida are assured.

This is not a *pikers game*, but one where both ample capital and a high degree of intelligence are needed and will be generously rewarded.

How long will it take to complete the damming up of the remaining \$10,000,000 portion of the original \$30,000,000 stream? If the presentation of the plain, unvarnished facts as set forth in this article, should, like a clarion trumpet, sound the people to action, and sufficient men of the Bennett type, who have both vision and capital, come forward from Florida and other states and get into action, an answer would be easy.

It is entirely within the realm of possibility, that 5 years from now, Florida may be producing more lemons than she consumes and that 10 years hence, \$10,000,000 or more may be annually flowing into Florida from lemons shipped out after supplying our own needs. In income this would mean the transforming of the original outgo of \$1,800,000 per annum, into a net annual income of \$10,000,000, or an annual betterment of Florida's income by \$11,800,000.

From the capital investment standpoint, it would mean a complete release from \$30,000,000 bondage to foreign lemon growers under which Florida has labored, and the transforming of that liability into an income paying investment worth \$166,666,667, or a difference in Florida's favor of \$196,666,667—a result well worth striving to attain.

The people of Florida are under lasting obligations to those Government experts whose thoughtful ingenuity and intelligent efforts created the Perrine lemon, and they deserve all of the credit. All the writer has done was to take their creation, discover its weaknesses and advantages, and to find and prove it fits into the picture. There are many men in Florida who could have done these things more intelligently and with fewer mistakes and less effort, had they been lemon minded and obsessed with a burning desire to help free Florida from her lemon bondage.

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## New Citrus Pact Soon To Be Announced

Reports from Washington indicate that the revised citrus control agreement for Florida is due for early action by the department of agriculture and that early announcement of the approved agreement may be anticipated.

Under date of September 17 the following announcement came out of Washington:

Progress was reported today by the farm administration in its effort to draft a new marketing agreement for the Florida citrus industry with an unwritten provision—that all engaged in the industry shall work for harmony.

Recurring discord among growers and shippers was followed Aug. 13 by termination of the industry's old agreement.

At a subsequent meeting in Washington, however, the various groups with divergent ideas of the manner in which the fruit should be mar-

keted gathered around one table with farm administration officials and thrashed out their differences.

The industry representatives, after three days of debate and compromise left with the Administration suggestions for revision of a proposed new marketing pact through which they hoped to promote harmony in the program to regulate shipments and increase returns to growers and shippers alike.

As they departed, the Floridians said they understood the suggestions would guide the drafting of the new marketing pact, and administration officials asserted it was their understanding if the suggestions were followed the Florida industry would sign the agreement.

The suggestions were:

1. That reports and records on which proration is made to shippers would be available to the control committee and to other shippers and

growers who may request them.

2. That modification of provisions for volume proration should be made to eliminate quota fruit, and to include both past performance and amount of fruit under control as factors in determining allotments to shippers.

3. The method of selecting the control committee as originally outlined in the proposed agreement should go into effect Aug. 1, 1935, except that the grower-members should be nominated by petition instead of at meetings, and the term of grower-members should be one instead of two years.

4. For the 1934-35 marketing season the names of the control committee members, seven growers and six shippers, should be written into the agreement.

5. That Florida members of the national proration committee for grapefruit and national proration committee for oranges be different persons and that Florida members of either committee should vote for national proration only on instructions of a resolution approved by at least nine members of the Florida Control Committee.

## EVIDENCE of GROWING POPULARITY

### THREE Florida Growers Buy Enough Granular 'Aero' Cyanamid to Fertilize 7,000 Acres of Citrus



Write for this leaflet at once. Ask for X-303

DURING the month of May, three Florida growers alone bought enough Granular AERO Cyanamid to fertilize over 7,000 acres of citrus . . . It takes this kind of evidence to make you realize and appreciate the growing popularity of Granular AERO Cyanamid as a citrus fertilizer . . . Granular AERO Cyanamid contains 27 per cent ammonia and 70 per cent hydrated lime. This lime destroys soil acids, and is beneficial to the trees and cover crop . . . And remember this . . . the ammonia of Granular AERO Cyanamid is not leached from the soil by heavy rains . . . Now you know why we particularly recommend Granular AERO Cyanamid for your summer application.



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## CITRUS PLANTINGS ON THE INCREASE, INSPECTION SHOWS

Gainesville, Fla. — An increase of 50 percent in citrus nursery stock and bud-eye movement took place during the last season, according to a report from J. C. Goodwin, nursery inspector with the State Plant Board. Movements, however, were about the same as those of two years ago.

Most of the movements took place within the state, but certificates to 27 states and 20 foreign countries were issued. Russia purchased heavily of grapefruit, lemon and Satsuma stocks and budwood for trial in the Black Sea area.

There are about 1,800 nurseries in the state, involving about 4,300 acres. About 1,500 of this acreage is devoted to citrus, the remainder to other fruits and ornamentals.

The citrus stock movements during the 12 months preceding July 1 were 1,354,000, compared with 825,000 the year before and 1,400,000 in 1931-32. Bud-eye movements totaled 277,000 compared with 182,000 in 1932-33 and 276,000 in 1931-32.

Slightly more than half a million orange stocks and 135,000 orange bud-eyes moved. Grapefruit movements were 161,500 stocks and nearly 70,000 bud-eyes.

The highest increase in movements was in lemons. About 23,800 stocks moved compared with from two thousand to five thousand the last two seasons. Lemon bud-eye movements were 45,500, about double the average of the last two seasons.

Satsuma, lime and tangerine bud-eye movements all showed heavy decreases. Stock movements of Satsumas were double the average of the last two years, tangerines were about the same, and limes showed slight increase.

During the season the Plant Board inspected 124,500,000 plants, and refused to issue certificates on about 4,500,000. Most of the refusals were

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## THE CITRUS INDUSTRY

due to scale-insects or to excessive weeds and grass in the nursery.

### CITRUS CANKER QUARANTINE REVISED

Secretary of Agriculture Wallace announced recently a modification effective September 1, 1934, of Notice of Quarantine N. 19, on account of citrus canker and other citrus diseases. The effect is greatly to reduce the scope of this quarantine by limiting the prohibition against the entry from foreign countries of citrus nursery stock, including buds and scions, to one tribe only of the longer prohibited under this quarantine are used as ornamentals in the South. The tribe Citrinae still left under prohibition comprises the ordinary

citrus species and their near botanical relatives.

Information accumulated since this quarantine was first established in 1914 indicates that citrus canker and the other important citrus diseases concerned are not likely to occur on species outside of the particular group of which the orange, grapefruit, etc are outstanding representatives, and it is because of this favorable situation, the Secretary states, that a partial relaxation of the restrictions is now considered safe; moreover, this modification is made with the assurance that the entry from abroad of the various species now released from a prohibited status will still be amply safeguarded.

CLEOPATRA Mandarin root-stock, Hainout size and larger. Also sour orange. Variety of buds on Cleo. Grand Island Nurseries, Eustis, Fla.

PUREBRED PULLETS FOR SALE—White Leghorns and Anconas ready to ship. Barred Rocks and R. I. Reds shortly. Several hundred yearling White Leghorn hens now laying 70%. Write or wire for prices. C. A. Norman, Dr. 1440, Knoxville, Tenn.

WANTED—To hear from owner having good farm for sale. Cash price, particulars, John Black, Chippewa Falls, Wisconsin.

LAREDO SOY BEANS, considered free from nematode, excellent for hay and soil improvement. Write the Baldwin County Seed Growers Association, Loxley, Alabama, for prices.

FANCY ABAKKA pineapple plants. R. A. Saeger, Ahkona, Florida.

FOR SALE—Selected budwood and trees of Ferrine lemon, Tahiti lime, new varieties tangelos and other citrus. Ward's Nursery, Avon Park, Fla.

DETAILED SOIL Analysts, Interpretations. \$2.50. Soil Laboratory, Frostproof, Florida.

SCENIC HIGHWAY NURSERIES has a large stock of early and late grapefruit and oranges. One, two and three year buds. This nursery has been operated since 1883 by G. H. Gibbons, Waverly, Fla.

NEW COMMERCIAL lemon for Florida, the Ferrine; proven. All residents need yard trees, keeping Florida money at home. Booking orders for budded stock for Winter delivery. DeSoto Nurseries, DeSoto City, Fla.

WANTED—To hear from owner of land for sale. O. Hawley, Baldwin, Wis.

SATSUMA BUDWOOD from Bearing Trees. Hills Fruit Farm, Panama City, Fla.

SEED—Rough lemon, sour orange, cleopatra. New crop from type true parent trees. Also thrifty seedlings. DeSoto Nurseries, DeSoto City, Florida.

BUDDED trees new Florida commercial lemon, proven, thin skinned, juicy, acid immune. Also rough lemon, sour orange and Cleopatra seed and liningout seedlings. DeSoto Nurseries, DeSoto City, Fla.

SEEDS—ROUGH LEMON, SOUR ORANGE, CLEOPATRA. Pure, fresh, good germination. Also seedlings lineout size. DeSoto Nurseries, DeSoto City, Fla.

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